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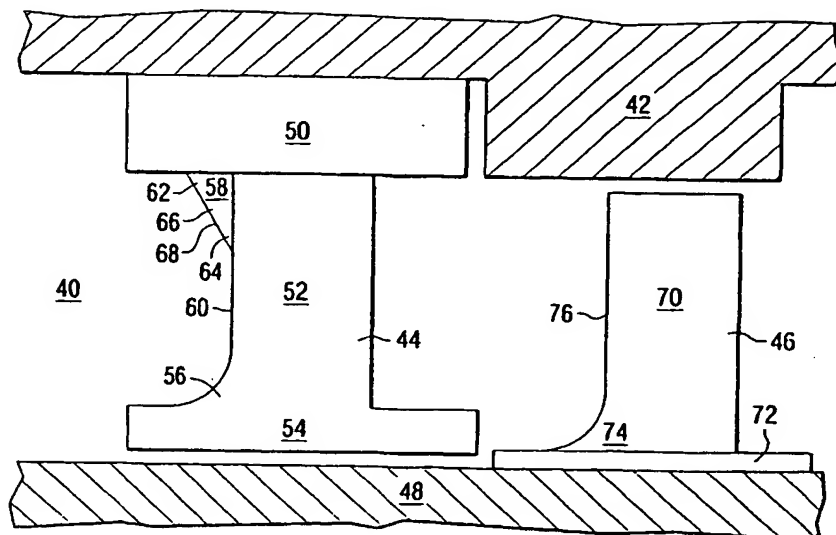
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(54) Title: AIRFOIL LEADING EDGE VORTEX ELIMINATION DEVICE



(57) Abstract: A turbo-machine (40) having a vortex elimination device (56, 58, 74) disposed at the intersection of a blade (46) or vane (44) and its end wall (50, 54, 72). The vortex elimination device (56, 58, 74) may have a generally triangular shape with a straight (58) or curvilinear (56) leading edge and may be formed to be integral (56, 74) with or attached to (58) the airfoil (52, 70) and endwall (50, 54, 72). The vortex elimination device prevents the formation of a leading edge horseshoe vortex as the flow stream passes over the leading edge of the airfoil by generating a radial leading edge force that counters the radial equilibrium and stagnated flow forces, thereby providing a smooth flow stream around the airfoil leading edge.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F01D5/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 661 413 A (MOTOREN TURBINEN UNION) 5 July 1995 (1995-07-05) column 1, line 32 -column 2, line 37; figures 1A,2,3,4	1-12
X	EP 0 833 060 A (TOKYO SHIBAURA ELECTRIC CO) 1 April 1998 (1998-04-01) figures 1,3,6,7	1-12
X	EP 0 425 889 A (MITSUBISHI HEAVY IND LTD) 8 May 1991 (1991-05-08) page 3, column 50 -page 5, column 7; figures 2,5	1-12
A	US 4 208 167 A (SATO TAKESHI ET AL) 17 June 1980 (1980-06-17) column 5, line 24 -column 6, line 2; figures 7,9,10	1-12

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PIOSKE C ET AL: "DREIDIMENSIONALE TURBINENBESCHAUFELUNG. BERICHT AUS DER TAETIGKEIT DER FORSCHUNGSVEREINIGUNG VERBRENNUNGSKRAFTMACHINEN E.V. (FVV)1" MTZ MOTORTECHNISCHE ZEITSCHRIFT, DE, FRANCKH'SCHE VERLAGSHANDLUNG, ABTEILUNG TECHNIK. STUTTGART, vol. 58, no. 6, 1 June 1997 (1997-06-01), pages 358-362, XP000700766 ISSN: 0024-8525 the whole document</p>	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

national Application No

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